
**Thomas P. DiNapoli
COMPTROLLER**



**OFFICE OF THE
NEW YORK STATE COMPTROLLER**

**DIVISION OF STATE
GOVERNMENT ACCOUNTABILITY**

Audit Objectives 2

Audit Results - Summary 2

Background 3

**Audit Findings and
Recommendations 5**

Compliance With Contract
Requirements 5
Recommendations 10
Contractor Oversight 10
Recommendations 12

Audit Scope and Methodology 12

Authority 13

Reporting Requirements 13

Contributors to the Report 13

Appendix A - Auditee Response .. 14

**Appendix B - State Comptroller's
Comments 18**

OFFICE FOR TECHNOLOGY

**STATEWIDE WIRELESS
NETWORK: PHASE ONE
DEVELOPMENT**

Report 2007-R-7

AUDIT OBJECTIVES

The objectives of this audit were to determine whether the contractor (M/A-COM, Inc.) complied with contract requirements for Phase One development of the Statewide Wireless Network and whether the Office for Technology effectively monitored the contractor's performance.

AUDIT RESULTS - SUMMARY

In 2005, the New York State Office for Technology (OFT) contracted with M/A-COM, Inc. to develop and operate a Statewide Wireless Network (Network) for emergency communications between public safety agencies on the State, local and federal levels. The contract covers a 20-year period with an expected cost of up to \$2.005 billion if all Regional Build-outs are accepted by OFT. There are 12 separate regional acceptances. The State may or may not accept each region one at a time. According to the contract, the Network is to be fully operational by July 19, 2010.

The contract requires M/A-COM to develop and operate the Network in three phases. In Phase One, M/A-COM was to make the Network operational in two western counties by December 19, 2006. We found that, as of June 30, 2008, the Network was not yet operational in these two counties. As a result, the project was at least one and one-half years behind schedule. In part, the project was delayed because it took longer than expected for M/A-COM to acquire sites for the Network's communication towers and obtain the required environmental approvals for these sites. In its response to the State's Request for Proposal for the contract, M/A-COM claimed to have extensive experience in the site acquisition process. We therefore believe M/A-COM had a responsibility to complete the process in a timely manner.

Further delays in project implementation resulted because the Network failed its full-scale operational tests in September 2007. Numerous operational deficiencies were identified during this testing, and a second round of testing had to be performed in April 2008. However, it was determined that a number of significant deficiencies continued to exist. While OFT officials have neither accepted nor rejected the second round of testing, they scheduled yet a third round of technical testing for July 2008.

If this third round of technical testing is deemed unsuccessful, OFT officials do not plan to advance to Phase Two of the contract with M/A-COM. If this third round of technical testing is deemed successful, OFT plans to bring in Users for a third round of operational testing. This third round of testing will culminate with OFT making a final accept or reject decision on the Primary Region Build-out no later than August 29, 2008.

We identified a number of weaknesses in the Network development process and recommend that OFT address these weaknesses before the project moves forward. For example, Network testing was not properly planned or implemented, and the needs of the public safety user agencies were not fully taken into account during the Network design and development process. In fact, representatives of some of these user agencies felt their time and resources were not used effectively in both the first and second rounds of operational testing because insufficient preparations had been made for the testing by OFT and M/A-COM.

Under the contract, the State is not obligated to make any payments to M/A-COM until the Primary Region is completed, tested and accepted by OFT. If Phase One is not accepted by OFT because it does not meet

contract requirements, the State may terminate the contract without reimbursing any of M/A-COM's costs. It is thus critical that OFT appropriately assess the adequacy of M/A-COM's Phase One work and not accept the work unless it fully meets all contract requirements.

Our report contains six recommendations regarding the Primary Region Build-out. In response to our draft report OFT officials stated that they agree with our recommendations and have taken steps to implement them as appropriate.

M/A-COM officials did not respond to our draft report but informed us previously that they believe our report to be inappropriate and unfounded.

This report dated August 21, 2008, is available on our website at: <http://www.osc.state.ny.us>. Add or update your mailing list address by contacting us at: (518) 474-3271 or
Office of the State Comptroller
Division of State Government Accountability
110 State Street, 11th Floor
Albany, NY 12236

BACKGROUND

The New York State Office for Technology (OFT) is charged with coordinating New York State's vast technology resources by establishing, overseeing, managing, coordinating and facilitating the planning, design and implementation of the State's common technology networks.

In 2005, OFT contracted with M/A-COM, Inc. to develop and operate a Statewide Wireless Network (Network) for emergency communications. The contract covers a 20-year period with a not-to-exceed price of \$2.005 billion if all regional Build-outs are

accepted by OFT. There are 12 separate regional acceptances. The State may or may not accept each region one at a time. The contract is a lease-purchase agreement, and at the end of the 20-year period, the State will own the Network. However, at any point during the contract term, the State reserves the right to purchase the system in whole or in part.

The Network, when completed, is required to cover nearly the entire geographic area of the State and provide infrastructure for communications between public safety agencies on the State, local and federal levels. Communication infrastructure items include communication towers, transmission sites and equipment, and antenna support structures.

According to OFT, the Network will replace aging communications infrastructures that are badly in need of modernization. Preliminary planning for the Network began in 1996 within the Division of State Police. A single shared statewide network strategy was developed to make it possible for participating agencies to function independently and autonomously during day-to-day operations and to immediately communicate interoperably during a crisis. A shared network approach may also provide cost advantages over multiple single agency systems by reducing the amount of infrastructure required to support the large number of users in the State.

The Network will function as a shared two-way radio system to provide the State's first responders (i.e., police, fire and medical personnel) with a common radio communications platform to share critical information through voice communication and digital data to meet the demands of day-to-day and crisis operations. State agencies such as the Division of State Police, the Department of Transportation, and the

Department of Correctional Services will be required to use the Network. Local government and public safety agencies will not be required to use the Network, but may opt to, and are encouraged, to do so.

Three levels of participation will be available to local Network users. A Level 1 partner will share Network infrastructures, such as towers, but will not actually access the Network. A Level 2 partner will be able to communicate with the Network through their existing legacy networks. A Level 3 partner will use the Network as their radio communication infrastructure (SWN Users) and will have the benefit of sharing Network frequencies and files with other Network Users, and maintaining control over talk groups. All participating State agencies will be SWN Users. OFT has implemented a formal outreach program to encourage local participation, and M/A-COM and OFT have implemented a training plan for Network Users.

To access the Network, Level 3 users will have to purchase their own radio equipment. According to estimates developed by the Office of the State Comptroller, this equipment could cost State agencies as much as \$260 million and local governments as much as \$530 million. This \$790 million in equipment costs must be added to the \$2 billion in contract costs when calculating the total cost of the Network to State taxpayers.

This equipment can be purchased from M/A-COM; however, to promote competition and thereby lower equipment prices, M/A-COM is required by the terms of the contract to pursue in good faith at least two other radio manufacturers who would agree to purchase its technology and produce and sell subscriber equipment compatible with SWN. According to OFT, M/A-COM has identified two other manufacturers who are willing to offer the

equipment to Network Users. However, formal contracts will not be executed with these manufacturers until the successful completion of Phase One of the Network.

The contract requires M/A-COM to develop and operate the Network in three phases. In Phase One, M/A-COM is to make the Network operational in a designated two-county area (Erie and Chautauqua Counties in Western New York, also known as the primary region). M/A-COM is to design the Network in those two counties, acquire the sites for the communication towers that will be needed to make the Network operational in those counties, construct the towers if they are not already in place, install radio receiving and transmitting equipment on the towers, test the functionality of the Network with State and local users, and obtain OFT's approval for that portion of the Network. To obtain this approval, M/A-COM must meet the functional specifications contained in the contract. In addition, although not formally part of Phase One, M/A-COM is also simultaneously upgrading an existing emergency communication system (Metro 21) covering the New York City region.

According to the contract, the Phase One build-out was to be completed by December 19, 2006. Once the build-out was successfully completed, M/A-COM was to develop an engineering design for the entire Network, using its Phase One design as a model. M/A-COM was to submit this final design for OFT's approval by July 19, 2007.

In Phase Two, which is to be completed by July 19, 2010, M/A-COM is to make the Network operational in the remaining 11 regions of the State. In Phase Three, M/A-COM is to provide ongoing Network maintenance and technology updates for the duration of the contract (until September 2025).

Under the contract, the State is not obligated to make payments to M/A-COM until a (the Primary) region is completed, tested and accepted by OFT. The lease payment for each region will be the portion of the not-to-exceed contract amount that reflects the percentage of effort and infrastructure equipment that was needed to successfully meet the functional requirements for the accepted region.

However, if Phase One is not accepted by OFT because of a failure on the part of M/A-COM to meet the contract's specifications, the State may terminate the contract (for cause) without reimbursing any of M/A-COM's costs and may recoup its own expenses incurred during the unsuccessful build-out. If OFT terminates the contract without cause (e.g., for convenience), the State must pay M/A-COM for its incurred costs. OFT is responsible for monitoring M/A-COM's implementation of the contract and for ensuring that only valid reimbursable costs are claimed for reimbursement.

In response to our discussion document, M/A-COM officials disagreed with our characterization of the State's payment and termination rights, but did not offer any contradictory evidence.

This is our second in a series of audits addressing the Statewide Wireless Network. Our first audit, issued on August 29, 2007, addressed Network outreach and training activities. The audit found that OFT's outreach to potential Network Users was carried out in accordance with contract requirements, but the required training plan had not yet been fully developed. In this audit, which was performed in consultation with the Office of the State Comptroller's Bureaus of Contracts and State Expenditures, we address M/A-COM's implementation of

Phase One activities and OFT's monitoring of this implementation.

AUDIT FINDINGS AND RECOMMENDATIONS

Compliance With Contract Requirements

M/A-COM was required by the contract to complete Phase One of the Network by December 19, 2006. We found that, as of June 30, 2008, M/A-COM had yet to complete Phase One because the Network in the two-county primary region had yet to pass its operational tests and be accepted by OFT. The Network failed its first round of testing in the Fall of 2007 because of numerous operational deficiencies, and OFT had yet to formally accept or reject the second and third rounds of testing held in April 2008 and July 2008 respectively. We observed the second and third rounds of testing and noted that the Network continued to perform poorly in many respects.

OFT is committed to making a final accept or reject determination regarding the Primary Region Build-out by August 29, 2008.

As a result of the delay in the implementation of Phase One, the entire project is at least one and one-half years behind schedule. We also found that if the deficiencies noted in M/A-COM's preliminary engineering designs are not corrected, the final engineering design may not meet contract requirements. We recommend significant improvements be made in the Network development process.

Phase One Progress

The contract was approved on September 19, 2005. According to the contract, M/A-COM had until December 19, 2006, a period of 15 months, to complete all the activities involved in implementing a successful Phase One

build-out. M/A-COM did not meet this requirement. M/A-COM submitted a preliminary Network design for the two-county area by the date specified in the contract (March 2006), acquired sites in these counties for communication towers, and installed radio equipment on the towers. However, it did not initiate operational testing until September 2007, nearly nine months after such tests were to have been successfully completed and the results accepted by OFT.

According to the contract, acceptance testing must include both technical and operational testing. Technical testing is to be conducted by M/A-COM and is to address such performance issues as site functionality, area coverage, and the ability of the Network to recover from simulated failures. Operational testing is to be performed under the supervision of OFT in conjunction with Network Users (State and local government agencies) and is to determine whether the Network functions as intended (successful build-out) or problems need to be corrected.

The first round of operational testing was not initiated until September 4, 2007 and was not completed until October 3, 2007. During this period, the Network did not perform as intended, as numerous operational deficiencies were identified, particularly in Erie County, where radio reception was often poor or nonexistent.

At the conclusion of this round of operational testing, M/A-COM conducted an analysis of the reported problems and worked with OFT and the test participants to develop a list of issues that had to be addressed. After M/A-COM informed OFT that these issues had been addressed, and submitted a signed affidavit affirming that the Network was ready for another round of operational testing, a second round of testing was initiated on

April 14, 2008 and completed on April 30, 2008.

We accompanied the first responders (i.e., police, fire and medical personnel) during this round of testing and observed that the Network continued to perform poorly in many respects. As was the case in the first round of testing, there were unclear voice communications, unacceptable tower downtime, inoperable portable radio devices, and delays when handing off signals between tower sites. As a result, OFT officials scheduled a third round of technical testing for July 2008 to determine whether the issues identified during the second round of testing have been successfully resolved by M/A-COM. We accompanied OFT and M/A-COM representatives during this third round of technical testing and observed several of the deficiencies identified during the first and second rounds of testing continued to exist. As such, OFT did not hold a third round of User testing to avoid Users from devoting their time and resources testing a system that is not ready for implementation. OFT officials stated that they would render an opinion on the acceptability of the Network's performance and their acceptance of the Primary Region Build-out by August 29, 2008.

We asked OFT officials why the operational testing had been delayed and did not begin until the Fall of 2007. The officials stated that there were numerous reasons. First, the site acquisition process was delayed, primarily because it took longer than expected to negotiate leases for the tower sites and complete the rigorous environmental reviews required by the New York State Environmental Quality Review Act. Further, the concurrent enhancement to the NYS-based Metro-21 System also was a contributing factor as it steered resources away from the Primary Region.

OFT officials noted that some lease negotiations were prolonged because the site owners sought specific terms and conditions, and some acquisitions were opposed by the landowners, local governments and local communities. They also noted that some of the delays in the environmental reviews were caused by third parties who were responsible for obtaining information needed for the reviews.

Although M/A-COM officials consider OFT and the State responsible for these delays, we note that M/A-COM, in its response to the State's Request for Proposal for the Network contract, claimed to have extensive experience in the site acquisition process. M/A-COM even provided a detailed plan for that process. This plan included environmental reviews and considered such factors as zoning and other such restrictions.

In its response to the Request for Proposal, M/A-COM stated that it would use a subcontractor with "considerable experience in the rapid deployment of communications system infrastructure, having pioneered several site acquisition techniques that allow the meeting of aggressive schedules . . . [and] has proven its ability to employ those techniques . . . in the State of New York and other northeastern States" Based on this response, many of the problems encountered in the Phase One site acquisition process should not have been expected to occur.

OFT officials also identified other reasons for the delays, such as software bugs, Network and subscriber equipment configuration problems, and site performance issues experienced during the operational testing. They also noted that the software code installed for subscriber radios did not reliably support a number of critical user functions, such as emergency button functionality and roaming between sites. They further noted

that, during the operational testing, deficiencies were identified in M/A-COM's project management processes and its technical support for the User agencies.

We also met with representatives from the four major State agencies that were involved in the operational testing (i.e., Division of State Police; Office of Parks, Recreation and Historic Preservation; Department of Environmental Conservation; and Department of Transportation). They told us that, in their opinion, the Network was not ready for operational testing in the Fall of 2007 because some of the tower sites were not completed and the required technical testing had not been performed beforehand. The officials said that many of the problems identified during the operational testing (e.g., interference and tower handoff issues) could, and should, have been identified and resolved by M/A-COM prior to the first round of operational tests.

The agency officials noted that the first round of operational testing took place without, or at the same time as, technical testing, and this tied up critical agency resources because agency staff involved in the testing could not be deployed at their usual duties while M/A-COM tried to resolve various technical problems. They noted that the first round of operational testing would not have taken so long to complete (30 days) if the technical testing had been completed earlier in the process. (We note that the contract does allow OFT a minimum of 30 days to perform operational testing.) The Users also noted that it cost their agencies a combined total of more than \$250,000 in overtime and other costs to participate in both rounds of testing as a result of all the personnel and equipment that was tied up for those weeks.

On May 7, 2008, subsequent to the second round of testing, officials from three of the

four agencies, each with public safety responsibilities, told us that they would not risk asking their staff to do their jobs with the Network as it performed during the testing. These officials noted that OFT may not be fully able to assess the Network's performance from a public safety perspective because OFT is a technology agency, not a public safety agency. They believe public safety issues would be better addressed if a public safety agency, such as the New York State Office of Homeland Security, well versed in the day to day as well as potential needs of public safety personnel, were at least partly responsible for overseeing the implementation and operation of the Network.

OFT acknowledged that "many of the problems and challenges presented during the first round of testing were related to the overlap between technical and operational testing" According to a document prepared by OFT, "the staged testing approach was adopted to accommodate an aggressive schedule to complete site construction and perform acceptance testing before year end and, in particular, before winter weather set in." OFT added that, due to the compressed schedule, they had little time to assess the success of the technical testing prior to or during the operational testing. With respect to the second and third rounds of testing, OFT officials noted that M/A-COM had submitted signed affidavits affirming that the Network was ready to undergo operational testing.

Network Users told us that, while their agencies were involved in the Network development process from the onset, they do not believe their needs, concerns and comments were given the consideration necessary to result in a successful build-out. While regular telephone conferences were held with User groups since the project's inception, formal meetings with Users,

discussing the details of their needs and concerns, did not commence until March 2007 at which time OFT supervisory personnel began attending.

During the Phase One build-out, M/A-COM has also been upgrading an existing emergency communications system (Metro 21) in New York City. It was planned that the upgrade would be completed by February 1, 2008. The upgraded system was first tested in December 2007, and while it performed better than the Network in Erie and Chautauqua Counties, there were still problems, such as interference and a lack of reception in some areas. According to the Users, they noted improvements in system performance in April 2008 but still did not feel it was ready for implementation.

Engineering Design

M/A-COM is required by the contract to develop a Network engineering design that sets forth the blueprint by which the entire Network will be developed. This engineering design must meet certain specifications that are described in the contract, and a preliminary engineering design was to be submitted to OFT by March 19, 2006.

We found that the preliminary engineering design was submitted to OFT on March 17, 2006, as required. However, OFT's analysis of the preliminary design indicated that if unchanged, the final engineering design would not comply with certain contract requirements. For example, OFT noted that the preliminary design incorporated and relied upon block diagrams that did not provide the detail required under the contract. OFT also noted that, in the preliminary design, M/A-COM assigned staffing levels to the project that were inadequate for both the current and future projected work levels.

The final engineering design was to be submitted to OFT by July 19, 2007. We found that what M/A-COM classified as a final design was submitted on this date, as required. However, we question whether any engineering design submitted before the completion of acceptance testing can be considered a “final” design. There can be no assurance a design is effective, and therefore final, until the operational tests have been passed. According to the contract, the final engineering design was to be submitted after successful operational testing. We recommend OFT not accept the final engineering design until it meets all contract specifications and all acceptance testing for Phase One is successfully completed.

In response to our draft report, OFT officials reiterated that they do not consider the engineering design submitted by M/A-COM on July 19, 2007 to be the “final” design as required by contract. OFT has submitted two rounds of comments to M/A-COM on the submitted design and have set a deadline of October 1, 2008 to either accept or reject it - and that failure to accept the design means the project will not proceed to Phase 2.

Agreed Upon Testing Procedures

According to the contract, before acceptance testing begins, M/A-COM is to submit to OFT a set of agreed upon testing procedures and these procedures are to be used by OFT when it evaluates the results of the testing. We found that M/A-COM submitted such procedures to OFT on July 18, 2007, seven weeks before the first round of acceptance testing began in September 2007. However, OFT did not complete its review of the procedures before acceptance testing began. In fact, OFT had not completed its review of the procedures until June 2008, after M/A-COM submitted updated procedures as a

result of the failed initial round of operational testing.

We recommend OFT ensure that all testing procedures are thoroughly reviewed before any further acceptance testing is performed. In the absence of such a review, there is no assurance the testing process will accomplish its intended objectives. If the Primary Region is successful, it is expected that the future testing in, and build-out of, the other regions will be successful as well. Therefore, it is particularly critical that the testing process for the Primary Region accomplish its intended objectives, since OFT’s acceptance of the Network in those two counties will most likely lead to the State moving forward with the project.

We also found indications the testing procedures submitted by M/A-COM may not be adequate. OFT hired an outside engineering firm to provide input on the testing procedures submitted by M/A-COM and the firm identified the following areas of possible concern:

- the categories of testing identified in the procedures were not complete;
- the level of detail in the testing procedures was inadequate, as there were missing procedures, missing resource requirements, missing documentation, missing test equipment definitions, and missing scheduling requirements;
- the coverage test plan indicates that testing will start before all sites in a test area are completed, causing ripple effects of changes that may be made as the remaining sites are implemented; and
- the risks of moving ahead with the current schedule and level of

documentation are “very high and could lead to additional costs, delays and potentially inaccurate test results, which would be detrimental to the reputation of the Network and could put Users of this network and the citizens they serve at risk.”

In response to our discussion document, M/A-COM officials stated that there are no deficiencies in their design of the Network as evidenced by the coverage test results analyzed by the State’s consultant. This analysis has not yet been made available to the audit team. However, we did meet with a representative from the State’s consultant after the third round of technical testing who indicated that in his opinion the system was not ready to move forward at this time.

We recommend OFT ensure that all deficiencies in the proposed testing procedures are remedied before any further acceptance testing is performed. We also recommend OFT ensure that M/A-COM’s Phase One work fully meets all contract requirements before accepting the work.

Recommendations

1. Ensure that M/A-COM’s Phase One work fully meets all contract requirements before accepting the work and before accepting M/A-COM’s final engineering design.
2. If M/A-COM’s Phase One work is accepted by August 29, 2008, and M/A-COM moves on to Phase Two of Network development:
 - Require M/A-COM to initiate the site acquisition process, and in particular, enter into tower lease negotiations, well in advance of the need to begin Network construction in those areas.

- Ensure that all site installations and technical tests are completed before scheduling any further operational tests involving the Users.
 - Ensure that User agency needs and concerns are adequately addressed in the Network design and development process.
3. To address the concerns of User agencies with public safety responsibilities, consider partnering with the New York State Office of Homeland Security or other major public safety agency to oversee the Network’s implementation and operation.
 4. If by August 29, 2008 the third round of acceptance testing is deemed unsuccessful, consider terminating the contract with M/A-COM and soliciting another vendor to develop and implement SWN.

In response to our draft report, OFT officials informed us that they agree with the above recommendations and have taken steps to implement them as appropriate. For example, OFT has communicated with M/A-COM to inform them that they will not accept the Primary Region Build-out if M/A-COM does not fully meet contract requirements and technical specifications. Further, OFT staff has refined testing procedures since the initial round of testing, and have implemented several initiatives to engage Users and address their concerns in a more responsive way.

Contractor Oversight

OFT is responsible for monitoring M/A-COM’s implementation of the contract and for ensuring that M/A-COM complies with all contract requirements. To monitor M/A-

COM's performance, OFT officials regularly meet with officials from M/A-COM and with officials from the User agencies. We reviewed the minutes from these meetings. We also reviewed records of the correspondence between OFT and M/A-COM, and met with officials from the user agencies.

We found that OFT has been in regular contact with M/A-COM. We also found that OFT officials were concerned about M/A-COM's lack of progress early in the Network development process and expressed these concerns to M/A-COM. For example, in April of 2006, M/A-COM asked for clarification regarding certain aspects of the communications towers. OFT responded that this request was not done in a timely fashion and that it was M/A-COM's responsibility to look into industry standards, which contained those clarifications and that the standards had been available since August 2005.

Despite its concerns, OFT was unable to get M/A-COM to improve its performance, and time frames were repeatedly pushed back. OFT officials noted that, since M/A-COM was not getting paid until Phase One was accepted, they could not withhold contract payments to penalize M/A-COM for its delays.

We found that OFT held periodic meetings and telephone conferences with User groups since contract inception. However, regular formal biweekly meetings with Users did not begin until March 2007 when OFT supervisory-level personnel began to attend.

Regular contact with the users is vital to ascertain their specific needs and concerns regarding Network development. As was previously noted, the Users do not believe their needs, concerns and comments were

given the consideration necessary to result in a successful build-out.

M/A-COM is also required by the contract to submit various progress reports to OFT. For example, monthly build-out reports are to be submitted describing the Network development activities to-date (site acquisition, tower construction, etc.), and monthly and quarterly financial reports are to be submitted describing the expenses incurred to-date by M/A-COM in developing the Network.

Because the contract provides for a Not-to-Exceed price, the progress reports are important for the State, because they help to protect its interests. For example, the build-out reports enable the State to monitor the adequacy of Network development and the financial reports enable the State to track and assess the reasonableness of the expenses claimed by M/A-COM on the project.

We reviewed the progress reports submitted by M/A-COM. We found that they were submitted on time. We also found that the information in the build-out reports complied with contract requirements. However, the information in the financial reports did not comply with contract requirements. These reports followed the formats prescribed by the contract (e.g., they contained the required collocation revenue and operating expense categories), but they did not contain any financial information. Instead, zeros were shown in all the financial categories.

According to the contract, if M/A-COM does not meet the reporting requirements, it can be fined \$5,000 per business day. OFT was not pursuing such fines, because M/A-COM will not receive any payments until Phase One work is accepted by OFT and M/A-COM can be terminated as the contractor if the work is not accepted.

However, we note that, under the contract, the fines could be applied against any future payments. While the fines would be irrelevant if the contract were terminated, they would not be irrelevant if M/A-COM's Phase One work is accepted and the contract proceeds to Phase Two. We therefore recommend OFT start imposing the penalty if the financial reporting requirements are not met.

In addition, the contract requires that M/A-COM staff assigned to the project possess the credentials and experience necessary to develop a project of this size and complexity. Each M/A-COM employee assigned to the project must be licensed in his/her area of specialty (e.g., civil or structural engineering), and each must possess two years of relevant on-the-job experience.

When we asked OFT officials whether they had verified M/A-COM staff qualifications for contract compliance, we were informed that although the resumes for each assigned staff are submitted to OFT, OFT does not verify the information on the resumes. As a result, there is no assurance the M/A-COM staff assigned to the project do, in fact, possess the required credentials and experience.

In response to our discussion document, M/A-COM officials informed us that they were preparing a response to address the above-noted issues regarding progress reports. However, as of this report date, none had been provided.

Recommendations

If it is decided to continue with M/A-COM on to Phase Two:

5. Impose the financial penalties allowed by the contract if M/A-COM does not comply with its reporting requirements.
6. Verify the credentials and experience of the M/A-COM personnel assigned to Network development and have them removed from the project if they do not meet the requirements specified in the contract.

In response to our draft report, OFT officials informed us that they agree with the above recommendations and will impose the noted financial penalties if M/A-COM does not adhere to the reporting requirements. Further, they will enforce the contract requirement that M/A-COM staff possess the proper credentials and experience.

AUDIT SCOPE AND METHODOLOGY

We conducted our audit in accordance with generally accepted government auditing standards. We audited OFT's administration of its contract with M/A-COM for the development and operation of the Statewide Wireless Network, focusing on Phase One of the contract. Our audit covered the period September 19, 2005 through July 25, 2008.

To accomplish our objectives, we interviewed officials at OFT, M/A-COM and selected Network user agencies. We reviewed the contract and other relevant documents maintained by OFT and M/A-COM, such as minutes of meetings, correspondence, and monthly activity reports required under the contract. We also visited selected tower sites, and accompanied OFT and M/A-COM staff during system testing. In addition, we consulted with officials from the Office of the State Comptroller's Bureau of Contracts and Bureau of State Expenditures.

In addition to being the State Auditor, the Comptroller performs certain other

constitutionally and statutorily mandated duties as the chief fiscal officer of New York State. These include operating the State's accounting system; preparing the State's financial statements; and approving State contracts, refunds and other payments. In addition, the Comptroller appoints members to certain boards, commissions and public authorities, some of whom have minority voting rights. These duties may be considered management functions for the purposes of evaluating organizational independence under generally accepted government auditing standards. In our opinion, these functions do not affect our ability to conduct independent audits of program performance.

AUTHORITY

The audit was performed pursuant to the State Comptroller's authority under Article V, Section 1 of the State Constitution, and Article II, Section 8 of the State Finance Law.

REPORTING REQUIREMENTS

We provided a draft copy of this report to OFT and M/A-COM officials for their review and comment. Their comments were considered in preparing this report and are included in their entirety as Appendix A.

Within 90 days of the final release of this report, as required by Section 170 of the Executive Law, the Chief Information Officer of the Office For Technology shall report to the Governor, the State Comptroller, and the leaders of the Legislature and fiscal committees, advising what steps were taken to implement the recommendations contained herein, and, if not implemented, the reasons therefor.

CONTRIBUTORS TO THE REPORT

Major contributors to this report include William Challice, Frank Patone, Stu Dolgon, Sal D'Amato, Anthony Carlo, Kamal Elsayed, Margarita Ledezma and Dana Newhouse.

APPENDIX A - AUDITEE RESPONSE

Received Fax : Aug 06 2008 4:58PM Fax Station : OSC SGANYC EXEC p. 2

AUG-06-2008 05:01 PM STATE.AUDIT.BUREAU 518 474 4271 P.02



David A. Paterson
Governor

STATE OF NEW YORK
State Capitol P.O. Box 2062
Albany, NY 12220-0062

Dr. Melodie Mayberry-Stewart
Chief Information Officer and
Director of Office for Technology

August 7, 2008

Mr. Frank Patone, CPA
Audit Director
Office of the State Comptroller
Division of State Government Accountability
110 State Street, 11th Floor
Albany, New York 12236

Re: **Response to Statewide Wireless Audit Report (2007-R-7)**

Dear Mr. Patone:

Thank you for the opportunity to comment on the draft Audit Report 2007-R-7 *Statewide Wireless Network: Phase One Development*. We appreciate the opportunity to work with your staff on previous drafts to guarantee the information in your report is accurate. Also, we value your participation during our network testing in April and July 2008 to verify that our testing procedures and protocols are transparent and accurately capture information to assess the condition of the network. We agree with you -- New York State owes its first responders and taxpayers a radio communications system that is reliable during day-to-day and emergency operations throughout the state and has interoperability between first responders at the state and local levels.

Below is our response to each of the recommendations outlined in your report:

1. **Ensure that M/A-COM's Phase One work fully meets all contract requirements before accepting the work and before accepting M/A-COM's final engineering design.**

We agree with the recommendation. CIO/OFT has been consistent in communicating to M/A-COM that our agency will not accept the Primary Region build out area or the statewide engineering design if M/A-COM does not fully meet all contract requirements and is in compliance with the technical specifications outlined in the contract. The statewide final engineering design was submitted to CIO/OFT by July 19, 2007. However, contrary to the opinion expressed in your report, the engineering design was not considered to be final by the CIO/OFT. Since receiving the engineering design and prior to any acceptance, CIO/OFT has submitted two rounds of comments to M/A-COM pertaining to our concerns with the design. The State set a deadline of October 1, 2008 to either accept or reject the M/A-COM's Statewide Engineering Design based on the responses to the concerns we provided. Failure to accept the engineering design means the project will not proceed to Phase 2, which was to build out the remainder of the State.

*
Comment
1

CIO/OFT SWN Audit Report Response 2007-R-7
Page 1 of 4

* See State Comptroller's Comments, page 18

2. If M/A-COM's Phase One work is accepted by August 29, 2008, and M/A-COM moves on to Phase Two of network development:

- a. **Require M/A-COM to initiate the site acquisition process, and in particular, enter into tower lease negotiations, well in advance of the need to begin Network construction in these areas.**
 - i. We agree with the recommendation. We have reviewed and enhanced the procedures and controls to ensure M/A-COM is working off the same project plan as the SWN team. Tasks required to acquire site are reviewed well in advance. In addition, the SWN team has developed a stronger community outreach program to alert state and local stakeholders regarding pre-planning for their systems, if the State should move forward after Phase 1.
- b. **Ensure that all site installations and technical tests are completed before scheduling any further operational tests involving the Users.**
 - i. We agree with the recommendation. CIO/OFT has worked diligently to refine all testing procedures since the initial round of testing that occurred in September 2007. One major improvement, based upon input from participating public safety users, was to incorporate a separate internal round of testing referred to as the System Integration Test (SIT) which is conducted by the CIO/OFT staff prior to turning the system over to the users for User Operational Testing. This additional step provides an additional round of testing and validation prior to user testing. In addition, CIO/OFT engaged an Independent Validation and Verification (IV & V) firm, Federal Engineering, to conduct a separate and additional test of the network prior to making it available to the users.
 - ii. The System Integration Testing (SIT) conducted in July 2008 revealed the network remains deficient and in need of further remediation. While the tests for coverage and foliated coverage were successful and passed, several critical issues regarding equipment reliability, in-building coverage and network performance remained unresolved. Also, new problems surfaced. Based on these results, CIO/OFT did not want to engage users in any further testing. This would not have proved fruitful given the old and new problems discovered during the third round of internal testing by the CIO/OFT team and the Independent Verification and Validation firm (Federal Engineering). Subsequently, users were not asked to conduct their user operational testing, thereby saving them money and time.
- c. **Ensure that User agency needs and concerns are adequately addressed in the network design and development process.**
 - i. We agree with the recommendation. CIO/OFT have implemented several initiatives to engage the users and to address their concerns in a more responsive way. The SWN team meets regularly with the user community. Weekly meetings have been held for almost a year with participating public safety user agencies to obtain their perspectives, feedback and to address concerns about the new system. The public safety entities are a critical component to testing and deploying the network. They are more fully engaged in testing, deploying, and operating the Network. In addition, to these meetings, CIO/OFT holds bi-weekly meetings with key stakeholders (Division of the Budget, Office of the State Controller, state agencies,

Legislative staff and Legislators, Executive Chamber and Division of Homeland Security), to discuss project status and current issues and challenges in a effort to provide more transparency regarding the status of the project. Information shared at these meetings is also distributed to members of the SWN Advisory Committee.

3. **To address the concerns of User agencies with public safety responsibilities, consider partnering with the New York State Office of Homeland Security or other major public safety agency to oversee the Network's implementation and operation.**

i. We agree with this recommendation. While CIO/OFT is the responsible agency for deploying a statewide wireless network, the agency works very closely with the State Office of Homeland Security to diligently focus on ensuring SWN meets the needs of our public safety personnel and other state employees who will use the network. An Inspector with the New York State Police is assigned full-time to the project and is collocated with the SWN program office to strengthen the working relationship between the State Police and the SWN technical team. Public safety agencies regularly attend our Bi-Weekly meetings held with the State Legislature, Office of the State Comptroller, the Budget Division, other State agencies and members of the Executive Chamber to share the most current information and to discuss project issues and challenges. This effort to provide more governance and oversight has resulted in more transparency regarding the project in which the vendor is also present to provide a status of its activities.

4. **If by August 29, 2008 the third round of acceptance testing is deemed unsuccessful, consider terminating the contract with M/A-COM and soliciting another vendor to develop and implement SWN.**

i. We agree with the recommendation. The third round of internal System Integration Testing (SIT) and our IV & V Independent testing was conducted in late July 2008. The testing did not pass CIO/OFT's System Integration Testing nor the IV & V's testing. Several critical issues were not resolved and new equipment problems emerged during the testing. Given these poor results, CIO/OFT did not deem it necessary to initiate the third round of User Operational Testing and subsequently postponed the test. Terminating the contract and soliciting another vendor is one of several options under evaluation. A final decision to accept or reject the Primary Region Build Out area will be recommended by CIO/OFT no later than August 29, 2008.

5. **Impose the financial penalties allowed by the contract if M/A-COM does not comply with its reporting requirements.**

i. We agree with this recommendation. CIO/OFT will impose financial penalties if M/A-COM does not adhere to its reporting requirements. In addition, CIO/OFT acknowledges your support in affirming our position that M/A-COM is obligated to supply requested and required financial information. Should M/A-COM not provide the information in a timely manner as requested, penalties will be imposed as stated in the contract.

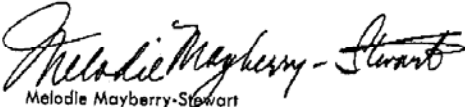
6. Verify the credentials and experiences of the M/A-COM personnel assigned to network development and have they removed from the project if they do (not) meet the requirements specified in the contract.

- i. We agree with the recommendation. CIO/OFT continues to insist M/A-COM provide a talented and qualified workforce for the project. CIO/OFT will enforce this provision of the contract to ensure that M/A-Com staff possesses the proper credentials and experience.

CIO/OFT has one final clarification regarding the financial commitment of the State. There is no provision in the SWN Contract that commits the State to the entire \$2 billion upon acceptance of the Primary Region. There are 12 separate regional acceptances. The State may or may not accept each region. Lease payments are tied to the acceptance of each region one at a time. In short, if the Primary Region is accepted on August 29, 2008 and the project moves forward to Phase 2, M/A-COM will not be paid for any region that does not meet the high quality public safety standards required across the State and as documented in the contract.

*
Comment
2

In conclusion, we appreciate the professionalism displayed by your auditors during this engagement and look forward to working with you in the future. For further assistance regarding our response, please contact Julie Leeper-Evans of our Risk and Audit Team at 473-8995/473-0234 or email her at julle.evans@oft.state.ny.us.

Sincerely,

Melodie Mayberry-Stewart

- cc: Lynn Martin, OSC
- Jonathan Spanos, CIO/OFT
- Sylvia Hamer, Executive Chamber
- Julie Leeper-Evans, CIO/OFT
- Rico Singleton, CIO/OFT
- Catherine Durand, CIO/OFT
- Thomas Lukacs, Division of the Budget

* See State Comptroller's Comments, page 18

APPENDIX B - STATE COMPTROLLER'S COMMENTS

1. OFT officials disagree with our report inference that a final engineering design was submitted by M/A-COM on July 19, 2007. We have revised page 9 of the report to illustrate their position on the submitted design.
2. OFT officials note that the State is not committed to the entire \$2 billion project upon acceptance of the Primary Region. We have revised report pages 2 and 3 to reflect this fact.